CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov

Notice of Staff Workshop
2011 Proceeding to Upgrade the California Building Energy Efficiency Standards

The California Energy Commission staff will conduct a workshop to discuss the plan and schedule for updating the California Building Energy Efficiency Standards (Standards), and to present the fundamental building blocks for developing the update. The workshop will present the research, analysis and justification for proposed revisions to climate zone weather data, Time Dependent Valuation factors, life cycle costing methodology, and the residential compliance software calculation engine for this upgrade of the Standards. Staff will solicit public comment on these proposed building blocks for the updated Standards. The workshop will be held:

NOVEMBER 16, 2010
10:00 a.m. - 4:00 p.m.
California Energy Commission
1516 Ninth Street
First Floor, Hearing Room B
Sacramento, CA 95814
(Wheelchair accessible)

Remote Attendance

Internet Webcast - Presentations and audio from the meeting will be broadcast via the Energy Commission's WebEx web meeting service. For details on how to participate via WebEx, please see the "Remote Attendance" section toward the end of this notice.

Availability of Documents

This notice, the workshop agenda, and other related documents will be posted to the project website, www.energy.ca.gov/title24/2013standards/pre-rulemaking/documents/. Please check the website periodically for additional information. Interested persons may sign up on a list server at that website to receive email updates about the proceeding to update the Standards.

Purpose

At this workshop, staff and project contractors will present the plan and schedule for updating the California Building Energy Efficiency Standards and the research, analysis and justification for proposed revisions to the following fundamental building blocks for the update:

1. New climate zone weather data
2. New Time Dependent Valuation factors
3. Revised Life Cycle Costing Methodology
4. Revised Residential Compliance Software Calculation Engine

Workshop participants will have an opportunity to ask questions about this information and to make comments and suggestions.

Background

The *Warren-Alquist Act*, enacted in 1976, mandated that the Energy Commission create and periodically update Building Energy Efficiency Standards for the state of California. These Standards address newly constructed buildings and additions and alterations to existing buildings. The Standards have, in combination with appliance efficiency standards and utility-sponsored incentive programs, strongly contributed to California's per capita electricity consumption levels remaining relatively flat since the mid-1970s. First adopted in 1977, the Standards have been periodically updated approximately on a three-year cycle. The most recent update, the 2008 Building Energy Efficiency Standards, went into effect on January 1, 2010.

The Energy Commission is now beginning the proceeding to update the 2008 Standards. The upgraded Standards are planned to go into effect in conjunction with the triennial upgrade of the other parts of the California Building Standards Code, and be published as the 2013 California Energy Code. The updated Standards will improve upon the 2008 Standards and will implement the following state energy policy directives:

- The *2003 Energy Action Plan (EAP)* established California's "loading order" policy for prioritizing energy resources to address the State's growing energy demands. Energy efficiency is the highest priority in the loading order, followed by demand response, and then electricity generation from renewable energy resources.

- The Energy Commission's *2009 Integrated Energy Policy Report (IEPR)* continues to emphasize the role of building energy efficiency in meeting California’s climate change mandates to achieve greenhouse gas (GHG) emission reductions. Energy efficiency is identified as the first strategy for accomplishing GHG reduction targets because it is the least cost, most environmentally sensitive and expeditious approach to reduce the contribution to

climate change in the building sector, which is second only to on-road vehicles in statewide GHG emissions. The IEPR recommends that a statewide efficiency target be set at 100 percent of economic potential. The report concludes that for the Standards to reach the aggressive goals in the state's energy and climate change policy reports and initiatives, and the GHG emission reduction mandates in legislation, vigorous energy efficiency coupled with technologies like solar photovoltaic systems will have to be accomplished.

- The *2007 Integrated Energy Policy Report* (IEPR) established the goal that new building standards achieve "net zero energy" levels by 2020 for residences and by 2030 for commercial buildings. A net zero energy building consumes only as much energy on an annual basis as can be generated with an on-site renewable energy system. The Energy Commission has begun a path toward a tiered approach to achieve zero net energy in future building standards. The base tier will be the traditional mandatory standard that increases in stringency with every code cycle. Additional tiers will be voluntary and represent a "reach" standard for advanced levels of energy efficiency. The intent of the advanced, voluntary tiers is to provide the industry and marketplace with a framework for differentiating highly energy-efficient buildings from standard buildings and to pilot these enhanced features in the field to see how well they work before determining which of the measures should be included in future mandatory standards. This proceeding will be the first standards update cycle where mandatory and reach levels of standards will be developed in parallel.

- A 2005 Governor's Executive Order and 2006 statute establish GHG reduction goals and mandates for California. The Climate Action Initiative (Executive Order S-3-05, June 2005) set the following GHG emission reduction targets for California: by 2020, reduce GHG emissions to 1990 levels, and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The Global Warming Solutions Act of 2006 (Assembly Bill 32, Núñez, Stats. 2006, Ch. 488 [AB 32]) codified the 2020 GHG emission reduction target into law. Effective Building Standards are an important tool for the state to achieve its GHG goals.

- The Green Building Standards Code first published in July 2008 and updated for publication in 2010, codifies voluntary "reach" standards for energy efficiency, as compared with the mandatory Standards, for newly constructed residential and nonresidential buildings. (See 24 Cal. Code Regs, Part 11.) The Green Building Standards Code established tiered energy performance levels of 15 percent and 30 percent more stringent than the mandatory 2008 Standards. Local jurisdictions may adopt the Green Building Standards Code as mandatory at the local level. Local jurisdictions may also adopt privately developed green building standards that are at least as stringent as the Building Energy Efficiency Standards and the Green Building Standards Code mandatory provisions. The energy provisions of these locally adopted green building standards are required to be approved by the Energy Commission to ensure that they actually are more stringent than the Standards and that the local government has adopted a cost

effectiveness analysis for the green building standards through a public process. In approving these local energy and green building ordinances, the Commission seeks a written commitment on the part of the local government to actively encourage compliance with and enforce both the state mandatory standards and the energy and green building codes.

- The California Public Utility Commission's (CPUC) *California Long Term Energy Efficiency Strategic Plan*, dated July 2008, endorses the Energy Commission's zero net energy goals for all newly constructed homes by 2020 and for all newly constructed commercial buildings by 2030. The California Investor Owned Utilities authored the Plan under the direction of the CPUC, and these utilities are now implementing public goods-funded incentive programs for the 2009-2012 program period that support the implementation of this strategic plan.

- The ARB Climate Change Scoping Plan also identifies strategies to achieve the 2020 GHG emissions limits. Those strategies include zero net energy buildings; more stringent building codes and appliance efficiency standards; broader standards for new types of appliances and for water efficiency; improved compliance and enforcement of existing standards; and voluntary efficiency and green building targets beyond mandatory codes.

- The Green Building Standards Code, ARB's Climate Change Scoping Plan and the CPUC's Energy Efficiency Strategic Plan all include the concept of a tiered approach to implementing energy efficiency in newly constructed buildings. This concept has been successfully implemented in the New Solar Home Partnership and the California Solar Initiative, where either a Tier I (15%) or a Tier II (30%) level of energy efficiency beyond mandatory code levels is required before an incentive can be received for the installation of a solar electric system. The Energy Commission intends to carry this concept further in the upcoming update to the Standards by developing, in parallel, both mandatory and voluntary (or "reach") energy efficiency code requirements.

- Assembly Bill 1109 (Huffman, Stats. 2007, Ch. 534) requires the Energy Commission to adopt minimum energy efficiency standards for all general purpose lights by the end of 2008. The Energy Commission adopted such standards on December 3, 2008. The legislation includes requirements to reduce average statewide electrical energy consumption by 2018 for indoor residential lighting by not less than 50 percent and for indoor commercial and outdoor lighting by not less than 25 percent compared to 2007 levels. The Energy Commission has taken a number of initial steps toward these requirements, including the adoption of the 2008 Title 20 Appliance Energy Efficiency Regulations and the 2008 Title 24 Building Energy Efficiency Standards. The Commission expects a number of additional efforts will be needed to make further progress to reach the requirements in AB 1109. These are likely to include updates to the Title 24 Building Energy Efficiency Standards, additional Title 20 Appliance Energy Efficiency Regulations (including moving

the lighting control regulations from Title 24 to Title 20 - see www.energy.ca.gov/appliances/battery_chargers/ for more information), federal lighting standards, as well as other strategies, such as utility rebates, customer education, and active support from the lighting industry.

- Assembly Bill 1560 (Huffman, Stats. 2007, Ch. 532) requires the Energy Commission to prescribe, by regulation, water efficiency and conservation standards for newly constructed residential and non-residential buildings, to reduce the wasteful, uneconomic, inefficient or unnecessary consumption of energy, including the energy associated with the use of water.

Written Comments

Written comments on the workshop topics must be submitted by 5:00 p.m. on November 15, 2010. Please include the docket number 10-BSTD-01 and indicate "Nov. 16, 2010 Staff Workshop - 2011 Building Energy Efficiency Standards" in the subject line or first paragraph of your comments. Written comments should be printed on both sides of the paper. Please hand deliver or mail an original copy of written comments to:

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 10-BSTD-01
1516 Ninth Street
Sacramento, CA 95814-5512

The Energy Commission encourages comments by e-mail. Please include your organization's name in the name of the electronic file. Those submitting comments by electronic mail should provide them in either Microsoft Word format or as a Portable Document (PDF) to [docket@energy.state.ca.us].

Participants may also provide an original and 10 copies at the beginning of the meeting. All written materials relating to this workshop will be filed with the Dockets Unit and become part of the public record in this proceeding.

Public Participation

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission activities. If you want information on how to participate in this forum, please contact the Public Adviser's Office at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at [PublicAdviser@energy.state.ca.us] If you have a disability and require assistance to participate, please contact Lou Quiroz at (916) 654-5146 at least five days in advance.

Please direct all news media inquiries to the Media and Public Communications Office at (916) 654-4989, or by e-mail at [mediaoffice@energy.state.ca.us]. If you have questions on the technical subject matter of this meeting, please call Martha Brook at (916) 654-4086.

Remote Attendance

You can participate in this meeting through WebEx, the Energy Commission's online meeting service. Presentations will appear on your computer screen, and you listen to the audio via your telephone. Please be aware that the meeting's WebEx audio and onscreen activity may be recorded.

Computer Log-on with Telephone Audio:

1. Please go to https://energy.webex.com and enter the unique meeting number: 924 322 332

2. When prompted, enter your name other information as directed and the meeting password: cec@1516

3. After you log-in, a prompt will ask for your phone number. If you wish to have WebEx call you back, enter your phone number. This will put your name on the participating by WebEx. If you do not wish to do that, click cancel, and go to step four. Or, if your company uses a switchboard-type of phone system where your line is an extension, click cancel and go to step 4.

4. If you do not want WebEx to call you back, then call 1-866-469-3239 (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and your unique Attendee ID number, which is listed in the top left area of your screen after you login via computer. International callers can dial in using the "Show all global call-in numbers" link (also in the top left area).

Telephone Only (No Computer Access):

1. Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number above. International callers can select their number from https://energy.webex.com/energy/globalcallin.php.

If you have difficulty joining the meeting, please call the WebEx Technical Support Number at 1-866-229-3239.

Date: November 5, 2010

Mail Lists: (efficiency)